

instead of having the ovoid conical ovary, slender style and five stellate stigmas of the typical flower, consisted of leaf-like bodies closely rolled or twisted together and an ovary broadened and flattened like an oblate spheroid. This conformation of the pistil occurred even in the least double flowers, and seemed, therefore, to be the first organ to undergo modification. A view of the pistil laid open furnished a fine illustration of the reversion of essential organs to leaves. It was composed of five, and frequently of six or seven leafy carpels, only slightly coherent at base, of a pale green color and thin in texture. The long acuminate apex of each was infolded and sometimes inclosed by the wavy-curved, involute margins of the basal portion. When the number of carpels was more than five, the extra ones were either inclosed within the others or appeared as lateral outgrowths from near the base.

Ovules were entirely wanting in the flowers with three circles of petals; in others a few were found larger and flatter than those of the single flower, and passing through intermediate pointed forms to a rounded body bearing a miniature leaf at the top.

The *Epigæa* receives so unkindly any attempt to cultivate it, that it would be interesting to know what peculiar conditions of its native surroundings have induced it to produce these double flowers.—KATE EASTMAN WILSON, *Wellesley College*.

EDITORIAL.

The GAZETTE greets its friends this new year and decade with fresh hopes and promises. The last decade has seen much activity among American botanists, and the GAZETTE has done its share in recording it. Much more botanical work is being done in this country now than ever before. Nearly all who hold botanical positions have seen the necessity of original work. No complaint can be made of the amount being done, but there may be a question as to the quality. We believe that the general quality of American work is improving, not merely on account of the increasing contact with foreign laboratories, but chiefly on account of better general training. Doubtless there are still instances of young men who spend a year or two in German laboratories, imbibe their egotism along with their methods, and then return with the purpose of enlightening us, but these cases are becoming fewer and must presently disappear. But if the quality of American work is improving there is still much to be desired. There are some workers of whom we are justly proud, but there are still many of the kind that have given us an uncomfortable reputation. Three kinds of work occur to us as especially abundant. The first is undertaken by those who have no conception of the meaning of original work. These are apt to write most voluminously, collating from

endless literature, but not contributing a single fact. Their measure of the value of a paper seems to be the number of foot-note references to literature. A second kind of work is really work, but is misdirected. The amount of misspent energy in scientific work is simply appalling. Some trivial subject is taken which amounts to nothing when completed, illustrating the saying, "what's true is not new, and what's new is good for nothing." A third class lay hold of subjects which are important enough, but are in such a tremendous hurry that one can not easily dissociate what they have seen from what they have guessed at. An itch for publishing is the spur which causes the natural American haste to break into a gallop. To present raw and undigested material to the botanical public is to have it all rejected.

Our attention has lately been called to these various kinds of botanical work, and we have taken this opportunity to speak of them. There is one defect, however, which is apt to be found even in good work. It is a defect which usually marks a beginner, and that is *generalization*. Papers with a small fact or two and world-wide generalizations are too common. It is well to remember that generalization is always unsafe, should never be ventured upon by a beginner, and is too often an indication of lack of facts. Generalization is only easy to one unembarrassed by facts. Happy is the veteran botanist who has no such youthful attempt to look back upon. If we could make all American botanists understand that it is their mission to collect facts with the most painstaking care, and to record them in the simplest possible way, the new decade would bring lasting honor to American botany.

CURRENT LITERATURE.

Bibliotheca Botanica.

We are gratified that this excellent series of monographs continues to be issued, for at the outset we apprehended their early discontinuance. While the series is an expensive one for the purchaser, we can hardly see how it can fail to be a more expensive one to the publisher. The elaborate style of the letter press and the exquisite plates are not equaled so far as we know, and we hope for a long continuance of the serial and wish for it an increasing constituency that it deserves. The fifteenth and sixteenth¹ parts are before us. In the former Dr. C. R. G. Schumann gives an account of the anatomical structure of the bud-scales of Coniferæ and woody dicotyledons. The usual review of the literature of the subject precedes the paper. Dr. Schumann discusses the epidermis of both outer

¹ Heft 15.—Anatomische Studien über die Knospenschuppen von Coniferen und dicotylen Holzgewächsen. 4to. p. 37. pl. 5.

Heft 16.—Beiträge zur Morphologie und Anatomie der Dioscoreaceen. 4to. p. 35. pl. 5, Cassel: Theodore Fischer. 1889. Each M. 10.